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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/809,440	03/15/2001	Gareth Hougham		4926

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EXAMINER

HUSON, MONICA ANNE

ART UNIT PAPER NUMBER

1732

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/809,440	HOUGHAM, GARETH	
	<b>Examiner</b>	<b>Art Unit</b>	
	Monica A. Huson	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,7 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

This office action is in response to the paper filed 16 February 2006.

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: The word “monomeric” is misspelled in line 6. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 rejected under 35 U.S.C. 112, second paragraph, as containing an improper alternative limitation. According to MPEP § 2173.05 (h), alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims. A Markush group is an acceptable form of alternative expression and must contain the phrase “selected from the group consisting of A, B and C.” See *Ex parte Markush*, 1925 C.D. 126 (Comm’r Pat. 1925). Claim 1 contains the incorrect alternative expression “moieties selected from the group consisting of hexamethylcyclotrisiloxane, octamethylcyclotrisiloxane, ..., divinyltetramethyldisiloxane, tetramethyldisiloxane”. In order to correct the claim, the

Art Unit: 1732

examiner suggests rewording the claim as follows: “moieties selected from the group consisting of hexamethylcyclotrisiloxane, octamethylcyclotrisiloxane, ..., divinyltetramethyldisiloxane, and tetramethyldisiloxane”.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Everhart et al. (U.S. Patent 5,922,550), in view of Sangakoya (U.S. Patent 5,731,253), further in view of Franses et al. (U.S. Patent 4,743,507). Regarding Claim 1, Everhart et al., hereafter “Everhart,” show that it is known to carry out a method consisting essentially of making a stamp for microcontact printing, said method substantially eliminating pattern distortion of said stamp formed as a result of the method (Column 9, lines 35-38), said method consisting essentially of inserting a blend of polysiloxane oligomer-siloxane monomer elastomer reactive mix into an enclosed mold (Column 9, lines 35-48), retaining said blend of polysiloxane oligomer-siloxane monomer reactive mix in said enclosed mold to maintain precise dimension during a two phase curing process comprising substantially curing and crosslinking said blend of polysiloxane oligomer-siloxane monomer reactive mix in said enclosed mold for a period of time at a substantially constant temperature to form an article, said constant curing temperature also being the end use temperature of a stamp to be formed from said article formed from said blend of

Art Unit: 1732

polysiloxane oligomer-siloxane monomer reactive mix, wherein the pattern geometry of said article so formed is fixed at end use thermal conditions and is not distorted (Column 9, lines 48-49), followed by a subsequent cure of said substantially cured blend of polysiloxane oligomer-siloxane monomer reactive mix in said enclosed mold at a temperature of from between about 50C and 120C, which curing temperature is higher than said substantial end use temperature of said stamp to be formed from said article formed from said blend of polysiloxane oligomer-siloxane monomer reactive mix and is sufficient to provide required dimensional integrity for pattern faithfulness and said subsequent cure is sufficient to harden said elastomer reactive mix to a desired elastic modulus (Column 9, lines 49-50), said two phase curing in said enclosed mold preventing permanent shrinkage and maintaining precise dimensions of said stamp to be formed from said siloxane polymeric elastomer reactive mix (Column 10, lines 4-16); and removing said cured article formed from said blend of polysiloxane oligomer-siloxane monomer reactive mix from said enclosed mold after completion of said two phase curing process and forming a microcontact printing stamp therefrom, said microcontact printing stamp, as a result of said two phase curing steps in said enclosed mold having minimal pattern distortion, being a flexible and soft elastomeric stamp (Column 10, lines 4-24). Everhart shows the process as claimed as discussed above, but does not show using the specifically-claimed monomeric moieties. Sangokoya shows that it is known to use a siloxane system that contains moieties of hexamethylcyclotrisiloxane and hexamethyldisiloxane (Column 10, line 31). Sangokoya and Everhart are combinable because they are concerned with a similar technical field, namely, that of siloxane compounds and their applicability. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Sangokoya's specific siloxane system

Art Unit: 1732

moiety as the elastomeric reactive material in Everhart's molding process in order to produce an article having characteristics of the molded moiety. Everhart does not show curing the polysiloxane oligomer-siloxane monomer reactive mix for a time in excess of one hour to about one week in a first of two curing phases. Franes et al., hereafter "Franes," show that it is known to carry out a method wherein a reactive mix is cured for a period of time ranging from in excess of one hour to about one week at a first temperature, followed by a subsequent cure at a higher temperature (Column 11, lines 1-7). Franes and Everhart are combinable because they are concerned with a similar technical field, namely, molding processes involving polydimethylsiloxane. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Franes' primary cure time during Everhart's curing process in order to produce an intermediate product having desirable characteristics that result from a specific cure time.

Regarding Claim 7, Everhart shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein dimensions contained on the stamp are microscopically small and registration of subsequent layers of such display is within microns over many inches (Column 10, lines 13-16), meeting applicant's claim.

Regarding Claim 8, Everhart shows the process as claimed as discussed in the rejection of Claim 1 above, including showing manufacturing a microelectronic pattern (Column 10, lines 25-34), meeting applicant's claim.

***Response to Arguments***

Applicant's arguments, see the paper filed 16 February 2006, with respect to the rejection(s) of claim(s) 1, 7, and 8 using Dawes, Sangakoya, Domeier, and Kumar have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Everhart, Sangakoya, and Franes.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

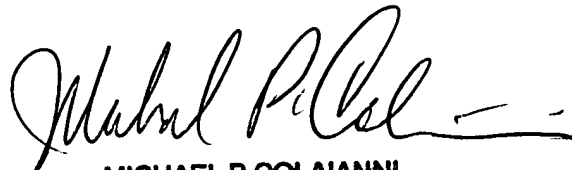
Art Unit: 1732

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Monica A Huson

April 25, 2006



**MICHAEL P. COLAIANNI**  
**SUPERVISORY PATENT EXAMINER**